

2004 and 2005 Florida Hurricane Damage Assessment

Executive Summary

Staff from the Bureau of Mobile Home and Recreational Vehicle (RV) Construction in The Division of Motor Vehicles (DMV), Department of Highway Safety and Motor Vehicles (DHSMV), assessed mobile home damage caused by Hurricanes Charley, Frances, Ivan & Jeanne in a sample of 152 mobile home parks affected by these storms. One central focus of these assessments was how the amendments to mobile home construction standards adopted by the U.S. Department of Housing and Urban Development (HUD) in 1994 held up to the wind, rain and storm surge forces of these hurricanes. The other was how the new mobile home installation standards adopted by the DHSMV in 1999 held up to these storm forces.

The Assessments found that of the 29,275 mobile homes located in the mobile home parks visited, approximately 3,583 (12.25 percent) were totally destroyed or were not repairable. However, mobile homes constructed post-1994 to the enhanced construction requirements adopted in 1994 withstood hurricane force winds as well as other severe weather conditions and remained intact with minor to no damage. There were approximately 4,056 post-1994 mobile homes in these parks (None of the post-1994 homes experienced any significant damage).

The assessment of storm damage from all four hurricanes indicate that homes installed in accordance with department's uniform mobile home installation rule, Rule Chapter 15C-1 Florida Administrative Code (F.A.C.), remained on their foundations with no movement as a result of severe winds or flood waters, with the exception of three homes impacted by high velocity wave action from Hurricane Ivan. Many homes found destroyed were installed prior to the department's uniform installation Rule Chapter 15C-1, F.A.C. Visual observations found straps and anchors rusted to the point of rendering them ineffective.

In addition to structural damage caused by severe winds to pre-1994 mobile homes, additional damage to mobile homes was due to add-ons such as carports and verandas being blown away. In the case of the older homes, this damage often resulted in damage to roofs which led to serious damage to the home. Since add-ons are not subject to the HUD mobile home construction standards, any improvement in their performance will have to result from changes to state laws, such as section 553.73, Florida Statutes, which concerns the Florida Building Code, and local ordinances governing such construction.

Summary of Findings from Mobile Home Damage Assessments Regarding Hurricanes Charley, Frances, Ivan and Jeanne (Numbers are Estimates)

No. of Mobile Homes Parks Visited	No. of Mobile Homes (MH)	No. of Destroyed or Not Repairable	No. of Post 1994 HUD Homes	No. of Post 1994 Homes Seriously Damaged
152	29275	3583 (12.25%)	4056 (13.87%)	0

Note: Damage Reports incorporated within are by mobile home park and by each storm. Therefore,

to determine a cumulative effect of the 2004 storms for a specific park, it may be necessary to reference all reports.

2005's Hurricane Wilma caused significant damage to mobile/manufactured homes. Staff of the Bureau of Mobile Homes and Recreational Vehicle Construction visited 115 mobile/manufactured home parks in most of the counties affected by this storm to assess the damage to mobile/manufactured homes. Of the 22,958 homes located in these parks, 1946 were destroyed or were not repairable. The severe damage which occurred in Chokoloskee, Florida, where the storm came ashore, and in the Lower Keys, was caused by storm surge rather than high wind.

The vast majority of homes that were destroyed were homes manufactured prior to regulation of mobile/manufactured home construction by the U.S. Department of Housing and Urban Development (HUD). These homes were not constructed in accordance to the increased HUD construction standards. These homes were also installed prior to the state regulating mobile/manufactured home installation and often were not installed adequately. Consequently, some of them moved on their foundations.

There were some mobile/manufactured homes built in accordance with HUD's Manufactured Home Construction and Safety Standards that were severely damaged. Typically this involved an add-on being blown off such as a carport, screen room or veranda. When these add-ons were blown off, they tended to engage other parts of the home, especially the roofs which caused further damage to the home. They also caused damage to other homes when they were blown into them.

The mobile/manufactured homes built after the 1994 amendments to HUD's mobile/manufactured home construction standards went into effect held up very well to hurricane forces. None of these homes were destroyed and, those that were damaged, tended to sustain only minor damage such as vinyl being blown off. In addition, all homes installed in accordance with the state's uniform installation standards performed well with regard to not moving on their foundations.